

REMARKS

Claims 1, 2 and 17 are amended. Claims 1-20, as amended, remain in the application. No new matter is added by the amendments to the claims.

The Rejections:

In the Final Office Action dated August 28, 2008, the Examiner rejected Claims 1-10, 17 and 20 under 35 U.S.C. 103(a) as being unpatentable over Suizu (US 4,592,692) in view of Wehde (US 3,529,735).

The Examiner rejected Claims 11-13 and 19 under 35 U.S.C. 103(a) as being unpatentable over Suizu in view of Wehde, and further in view of Dwyer (US 4,256,429).

The Examiner rejected Claims 14-16 under 35 U.S.C. 103(a) as being unpatentable over Suizu in view of Wehde, and further in view of Borcea (US 4,741,568).

The Examiner rejected Claim 18 under 35 U.S.C. 103(a) as being unpatentable over Suizu in view of Wehde, and further in view of Borcea.

The Response:

Applicant amended Claims 1 and 2 to remove the "adapted to be attached" language. Applicant amended Claims 1 and 17 to clarify that the "opposite sides" are the ones engaged by the clamshell gripper means.

Applicant amended Claim 1 to clarify that "said fork-type loader supports a bottom of the package from **only one of the opposite sides engaged by said clamshell gripper means** and does not extend to another of the opposite sides engaged by said clamshell gripper means in said pick position, said fork-type loader solely supporting the bottom of the package." Applicant amended Claim 17 to recite "said fork-type loader supports a bottom of the package in said pick position, said fork-type loader **extending from one of the opposite sides engaged by said clamshell gripper means** and not to another of the opposite sides engaged by said clamshell gripper means for solely supporting the bottom of the package." As shown in Applicant's Fig. 3 below, the fork-type support member **20** of the fork-type loader **15** extends from the same side of the package **18** as does the side support plate **26** of the clamshell gripper mechanism **17**.

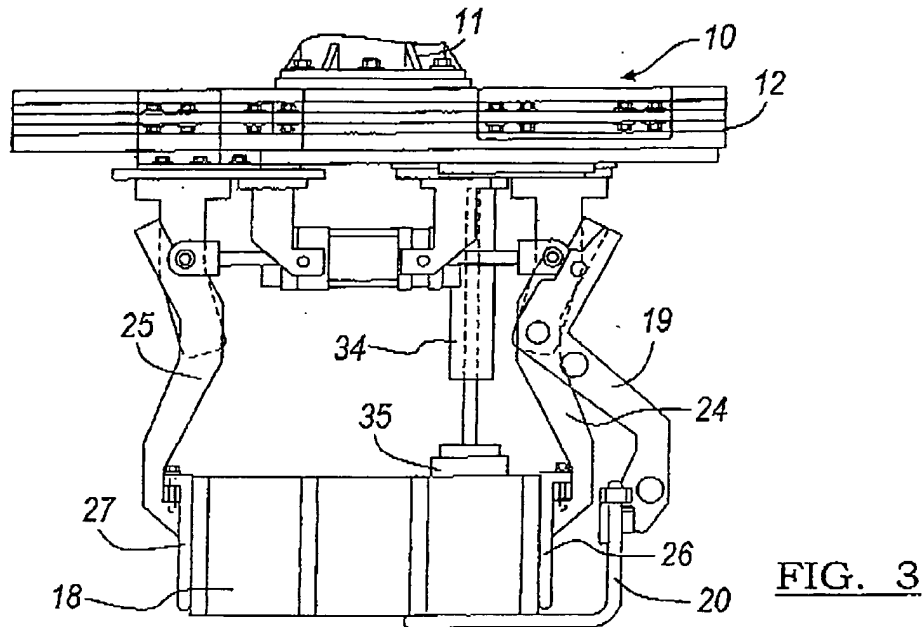


FIG. 3

In support of the rejection of Claims 1 and 17, the Examiner stated that:

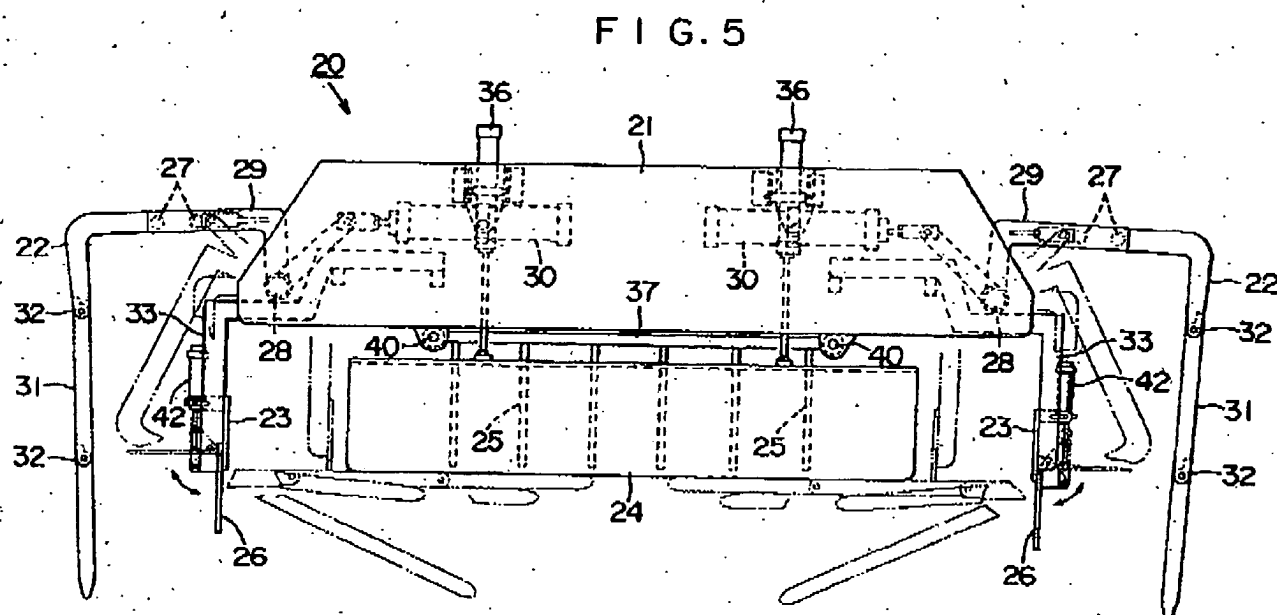
Suizu elements "26, 23, 24, 25, etc." are Applicant's "clamshell gripper means" adapted to be attached to a robotic arm "5, 6, 7, etc.";

Suizu's element 22 is Applicant's "fork-type loader" adapted to be attached to the robotic arm; and

whereby said clamshell gripper means engages opposite sides of a package in said clamped position and said fork-type loader supports a bottom of the package in said pick position.

Suizu shows in Fig. 5 (see below) a support frame 21 having right and left package line-up plates 23 provided thereon, the plates being movable horizontally towards and away from one another for package line-up. (Col. 2, Lines 66-68) A stopper plate 24 is mounted on the front of the support frame 21 to be capable of edgewise ascending and descending. (Col. 3, Lines 1-3) Neither the line-up plate 23 nor the stopper plate 24 pivots and, therefore, cannot be the claimed pivotally attached clamshell gripper means.

A plurality of engaging rods 25 are provided on the lower section at the rear of the support frame 21 and swing between a downwardly projecting operative position and a rearwardly projecting inoperative position. (Col. 3, Lines 3-8) The engaging rods 25 are used to line-up the rear sides of the packages up on the roller conveyor. (Col. 8, Lines 61-66) However, the rods 25 are opposed by the stopper plate 24 that only moves vertically. Clearly, the rods 25 and the stopper plate 24 cannot be the claimed pivotally attached clamshell gripper means that pivot to engage and apply a compressive force to opposite sides of the package in a clamped position.



A plurality of lower stage stopper plates 26 are mounted on the lower section of each of the package line-up plates 23 and swing between a downwardly projecting operative position and a laterally outwardly projecting inoperative position. (Col. 3, Lines 8-14) Each stopper plate 26 is supported on a separate shaft (Fig. 6) on the outside of the associated package line-up plate 23 for rotation. (Col. 4, Lines 13-18) When the packages of one stage in the pattern are lined up on the roller conveyor at the package line-up position 1, the forks 22 and the engagement rods 25 descend. (Col. 8, Lines 56-61) The sides of the packages are lined up straight by the stopper 58, the engagement rods 25 and the package line-up plates 23 on both sides. (Col. 8, Lines 61-66)

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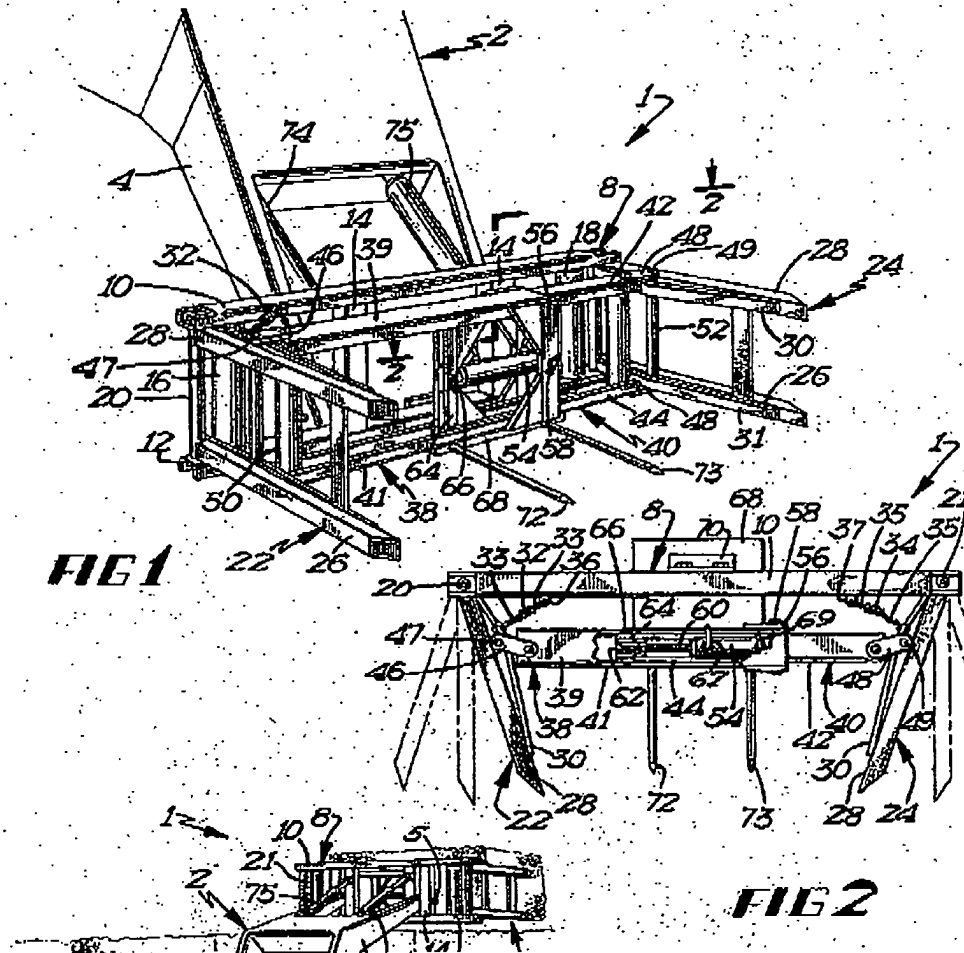
As is clearly shown in Fig. 5 above, when the line-up plates 23 are in a position wherein a side of a package abuts one of the line-up plates 23, the package will not abut the stopper plate 26 because the stopper plate 26 is positioned outside of the line-up plate 23 as stated above. Also, the stopper plates 26 cannot abut the packages because the bottoms of the packages are supported by the fork members 22 (shown in phantom line) adjacent the bottom edges of the line-up plates 23 and, therefore, the packages are above the stopper plates 26. Clearly, the stopper plates 26, which don't contact the packages, cannot be the claimed pivotally attached clamshell gripper means that engages and applies a compressive force to opposite sides of the package in a clamped position.

Also, Suizu states that when the frame 7 moves and then stops, the packages W are liable to shift forward by their inertia, but because this is prevented by the stopper plate 24, in practice this does not occur. (Col. 9, Lines 18-21) Obviously the plates 23 and 26, the stopper plate 24 and the rods 25 are not gripping the sides of the packages W if the packages could shift forward in the absence of the stopper plate 24.

Further evidence that the stopper plates 26 are not the "clamshell gripper means" recited in Applicants' claims is that the stopper plates 26 descend to abut either the pallet or the packages already on the pallet when the package holding apparatus 20 moves to the pallet loading position 2 carrying a stage of packages. Thus, the stopper plates 26 never clamp on the packages being transported by the package holding apparatus 20.

The Examiner stated that Suizu does not teach a fork and clamping device wherein the fork supports the bottom of a package from only one side and is the sole means of supporting the bottom of the package. According to the Examiner, Wehde teaches a fork and clamping device wherein the fork supports the bottom of a package from only one side and is the sole means of supporting the bottom of the package for situations where space or access is restricted, and it would have been obvious to one of ordinary skill in the art at the time the invention was made to have tried modifying Suizu by the general teaching of Wehde to have the fork and clamping device wherein the fork supports the bottom of a package from only one side and is the sole means of supporting the bottom of the package for the predictable result of being able to handle situations where space or access is restricted.

As shown in Wehde Figs. 1 and 2 below, the forwardly projecting tines 72 and 73 of the fork do not support a bottom of the hay bale from **only one of the opposite sides engaged by said clamshell gripper means** as recited in Applicant's Claims 1 and 17. The Wehde fork supports from the rear of the hay bale and, if substituted for the Suizu forks 22 would support from the rear of the packages. Eliminating one of the Suizu forks 22 will not work, because the stopper plates 26 never clamp on the packages so that the packages require support across the entire bottom.



The Examiner stated that although Suizu is believed to teach the claimed clamping, in order to expedite the case and address applicant's concern the following additional modification is added if it is determined that the claimed clamping (compression force) is not found in Suizu. Wehde teaches clamshell grippers (generally 22, 24) clamp and apply a pivotal compression force in order to better lift and/or grip a group of items. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Suizu by Wehde to have Suizu's clamshell gripper means clamp and apply a pivotal compression force in order to better lift and/or grip a group of items.

The Examiner has utilized the teaching in Applicant's specification to combine elements from two devices that operate in completely different manners. The Suizu pallet loading apparatus utilizes two sets of forks 22 to support the entire bottom surface of a layer of packages W. If one of the sets of the forks 22 is eliminated, some of the packages W would be unsupported and the layer of packages would fall apart. Since the packages W are completely supported by the two sets of forks 22, there is no evidence that clamping the packages at the sides would "better lift and/or grip a group of items" as suggested by the Examiner. In fact, Suizu teaches that bottom support is sufficient and side clamping is not required.

In contrast, the Wehde bale lifting apparatus includes forwardly projecting tines 72 and 73 for assisting in restraining and supporting hay bales as they are being lifted by the clamps 22 and 24. (Col. 3, lines 21-23) Note that the tines 72 and 73 are fixed to the skid plate 68 and, therefore, do not pivot like the Suizu forks 22. Thus, Wehde does not render obvious to one of ordinary skill in the art at the time the invention was made the modifications to Suizu suggested by the Examiner.

Dwyer and Borcea do not provide the missing elements.

In view of the amendments to the claims and the above arguments, Applicant believes that the claims of record now define patentable subject matter over the art of record. Accordingly, an early Notice of Allowance is respectfully requested.